

USER'S MANUAL

Micra 80 A3



**Single-room energy recovery
air handling unit**



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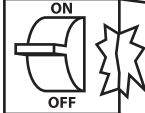

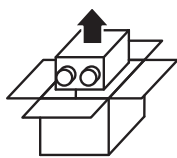

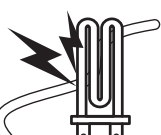
SAFETY REQUIREMENTS

- Read the user's manual carefully prior to the operation and installation of the single-room energy recovery air handling unit, hereinafter the unit.
- Installation and operation of the unit shall be performed in accordance with the present user's manual as well as the provisions of all the applicable local and national construction, electrical and technical codes and standards.
- The warnings contained in the present user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the safety regulations may result in an injury or unit damage.
- Read the manual carefully and keep it as long as you use the unit.
- While transferring the unit control the user's manual must be turned over to the receiving operator.


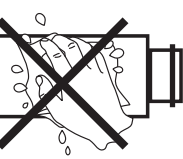
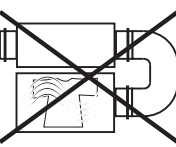
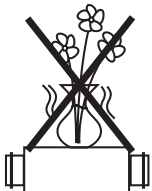

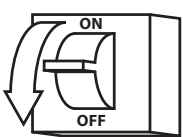
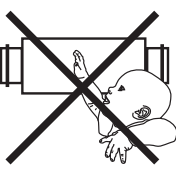

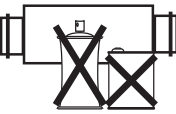
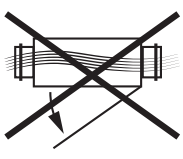
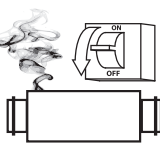
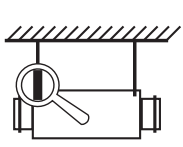
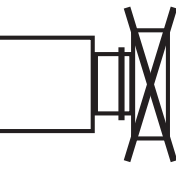
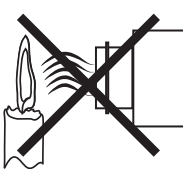
Symbol legend used in the manual:

	WARNING!
	DO NOT!

UNIT MOUNTING SAFETY PRECAUTIONS

	The unit must be disconnected from the power supply prior to every installation or repair operation.		The unit must be grounded!
	The unit must not be operated outside the temperature range stated in the user's manual or in aggressive or explosive environments.		Do not use damaged equipment or conductors to connect the unit to power mains.
	While installing the unit follow the safety regulations specific to the use of electric tools.		Unpack the unit with care.
	Do not change the power cord length at your own discretion. Do not bend the power cord. Avoid damaging the power cord.		Do not position any heating devices or other equipment in close proximity to the unit power cord.

UNIT OPERATING SAFETY PRECAUTIONS

	Do not touch the unit controls with wet hands. Do not carry out the unit maintenance with wet hands.		Do not wash the unit with water. Protect the unit electric parts from water ingress.
	Use the unit only as intended by the manufacturer. Do not connect clothes dryers or similar equipment to the unit or the ventilation system!		Do not put any containers with water, for example, vases on the unit.
	Do not sit on the unit and do not put any objects on it.		Disconnect the unit from power supply prior to maintenance.
	Do not let children operate the unit.		Do not damage the power cable while operating the unit. Do not put any objects on the power cable.
	Keep explosive and inflammable products away of the unit.		Do not open the operating unit.
	In case of unusual sounds, smoke disconnect the unit from power supply and contact the service centre.		In case of long lasting operation of the unit check the mounting reliability periodically.
	Do not block the air duct when the unit is on.		Do not let air flow from the unit be directed to the open flame devices or candles.

INTRODUCTION

This user's manual includes technical description, operation, installation and mounting guidelines, technical data for the single-room energy recovery air handling unit.

USE

The single-room energy recovery air handling unit is an energy saving appliance based on energy recovery technology. It is one of the energy saving components used in buildings and premises. The unit is a component part of a ventilation system and is not designed for stand-alone operation.

The unit is designed to arrange permanent controllable air exchange in flats, cottages, hotels, cafes and other domestic and public premises. The filtered air is warmed up by means of the recovered extract air heat energy.

The unit is designed for wall surface mounting.

The unit is rated for continuous operation.

Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, coarse dust, soot and oil particles, sticky substances, fibrous materials, pathogens or any other harmful substances.



THE UNIT IS NOT INTENDED TO BE USED BY CHILDREN, PHYSICALLY OR MENTALLY DISABLED PERSONS, PERSONS WITH SENSORY DISORDER, PERSONS WITH NO APPROPRIATE QUALIFICATION. INSTALLATION AND CONNECTION OPERATIONS MUST BE PERFORMED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE SAFETY BRIEFING. THE UNIT INSTALLATION PLACE MUST PREVENT ACCESS BY UNATTENDED CHILDREN.

DELIVERY SET

Name	Number
Unit	1 item
Fastening set	1 item
Cardboard master plate	1 item
User's manual	1 item
Packing box	1 item

DESIGNATION KEY

Micra 80 AX

- **Unit Control Panel**
3 — P3-1-300 Control Panel
- **Air capacity [m³/h]**
- **Unit name**

MAIN TECHNICAL PARAMETERS

The unit is designed for indoor application with the ambient temperature ranging from +1 °C up to +40 °C and relative humidity up to 80%.
The transported air temperature must be from -25 °C up to +50° C.

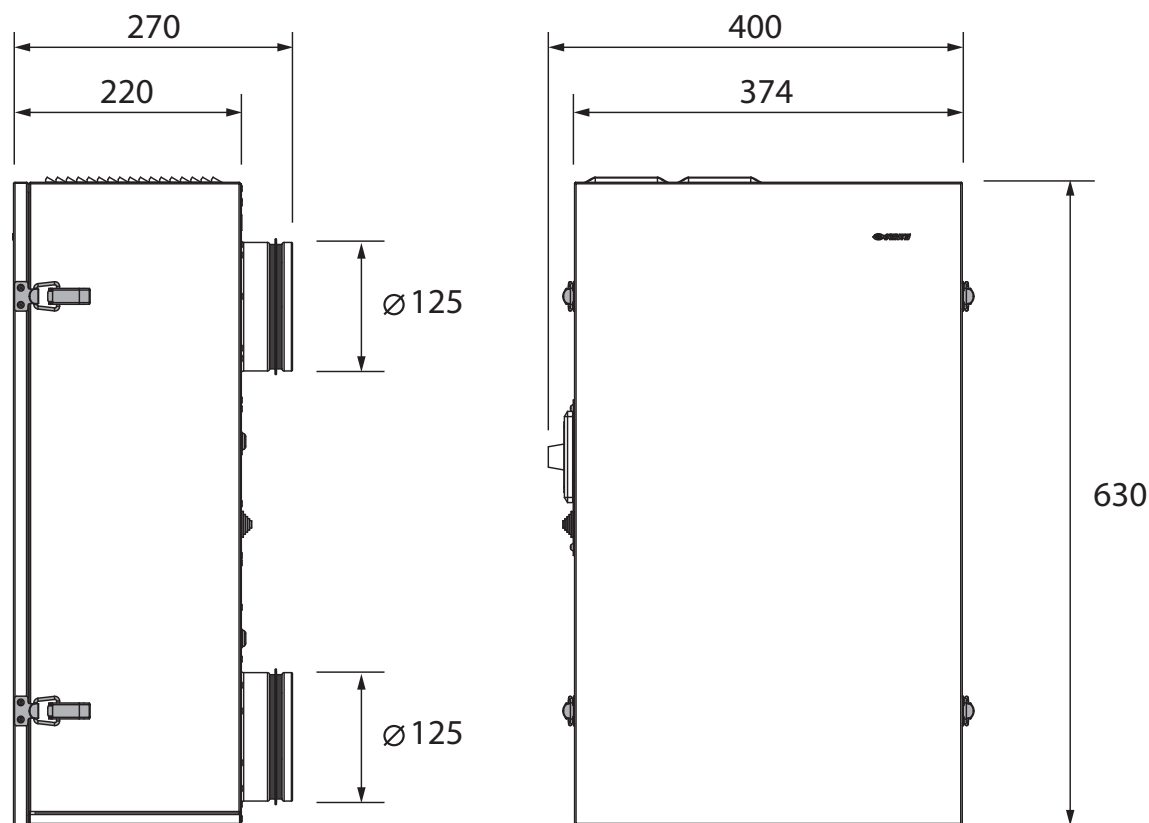
The unit is classified as a class I electric appliance.

Ingress Protection (IP) rating from solid objects and liquids:

- IP 44 for the unit motors;
- IP 22 for the assembled unit integrated into air ductworks.

The unit design is regularly improved, so some models may slightly differ from those ones described in this manual.

UNIT OVERALL DIMENSIONS, MM



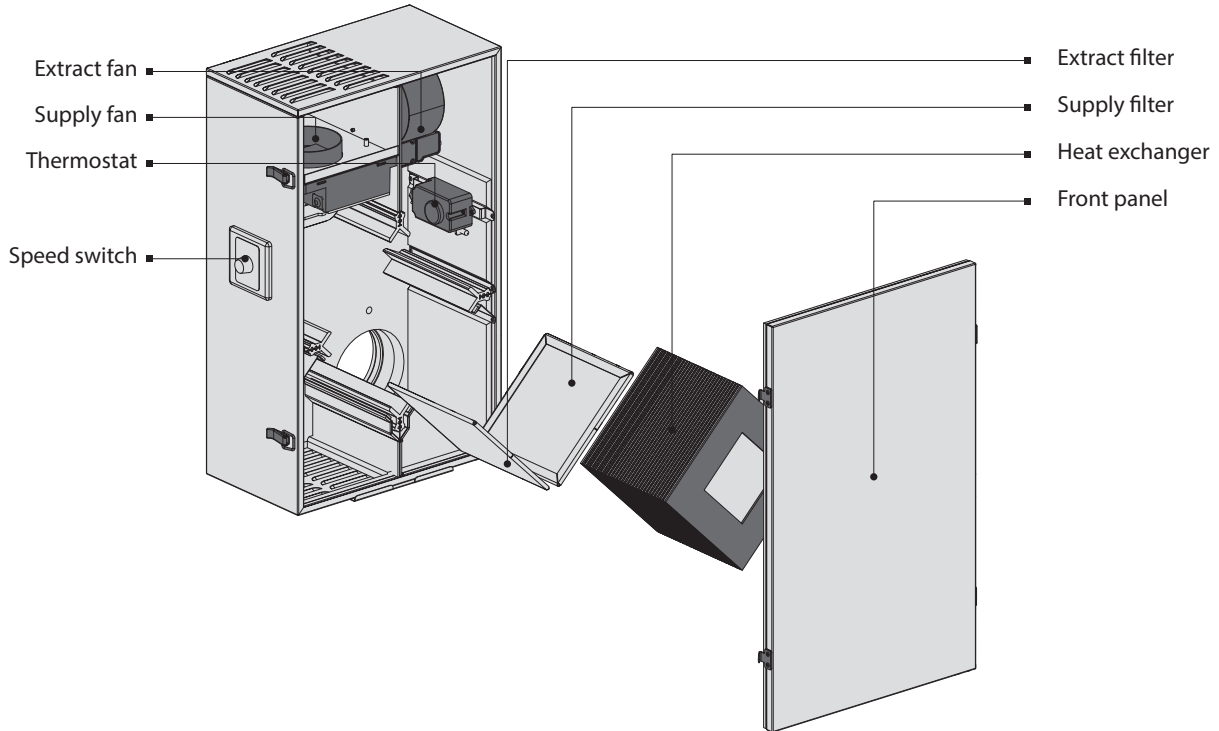
UNIT TECHNICAL DATA

Speed		1	2	3
Supply Voltage, 50 Hz [V]		1 ~ 230		
Power [W]		25	35	57
Total unit current [A]		0,15	0,2	0,34
Air capacity [m³/h]		40	60	80
Noise level [dB(A)]		24	32	41
Transported air temperature [°C]		from -25 up to +50		
Casing material		painted steel		
Insulation		PE foam		
Filter:	extract	G4		
	supply	G4		
Connected air duct diameter [mm]		125		
Weight [kg]		17		
Recovery efficiency [%]		68 up to 77		
Heat exchanger type		Cross-flow		
Heat exchanger material		Polymerized cellulose		

DESIGN AND OPERATING LOGIC

- The unit casing is made of painted steel, internally filled with a layer of heat- and sound-insulating material.
- The unit casing incorporates a cross-flow heat exchanger, a supply fan and an extract fan.
- The front panel is installed on the latches to enable quick access for the unit servicing.

UNIT DESIGN



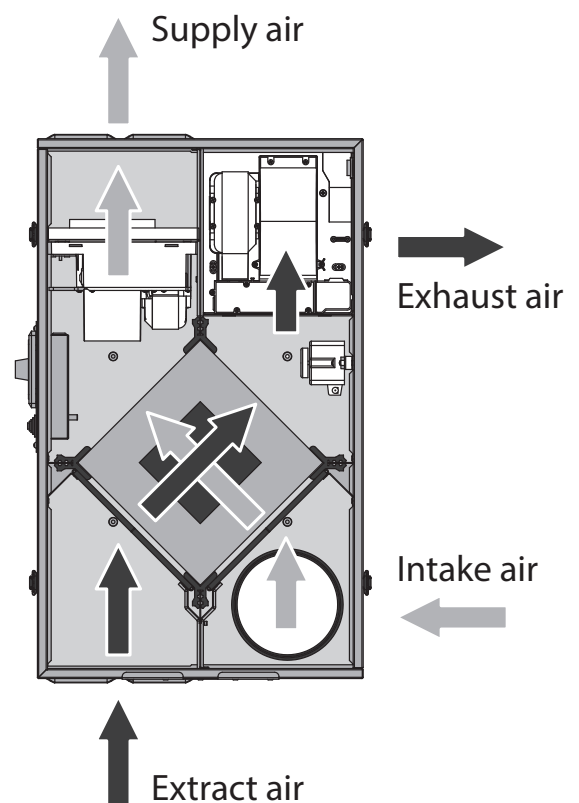
- If the exhaust air temperature falls down below $+3^{\circ}\text{C}$ the heat exchanger is subjected to the freezing danger. The freeze protection thermostat is installed in the exhaust air duct downstream of the heat exchanger. In case of a freezing danger the supply fan is turned off and the unit operates in air exhaust mode only. After warming up of the heat exchanger and no freezing danger detection the unit reverts to the standard operation mode.

The unit operates as follows:

Warm stale extract air from the room flows through the air ducts to the unit, is purified in the extract filter, then it is moved to the heat exchanger and exhausted outside by the extract fan. Clean cold air from outside is moved by supply fans to the unit where it is purified through the supply filter. Then clean air flows through the heat exchanger and is supplied to the room.

Heat energy contained in the warm extract air is transferred to the fresh intake inside of the heat exchanger. Heat recovery minimizes heat energy losses and operating heating costs.

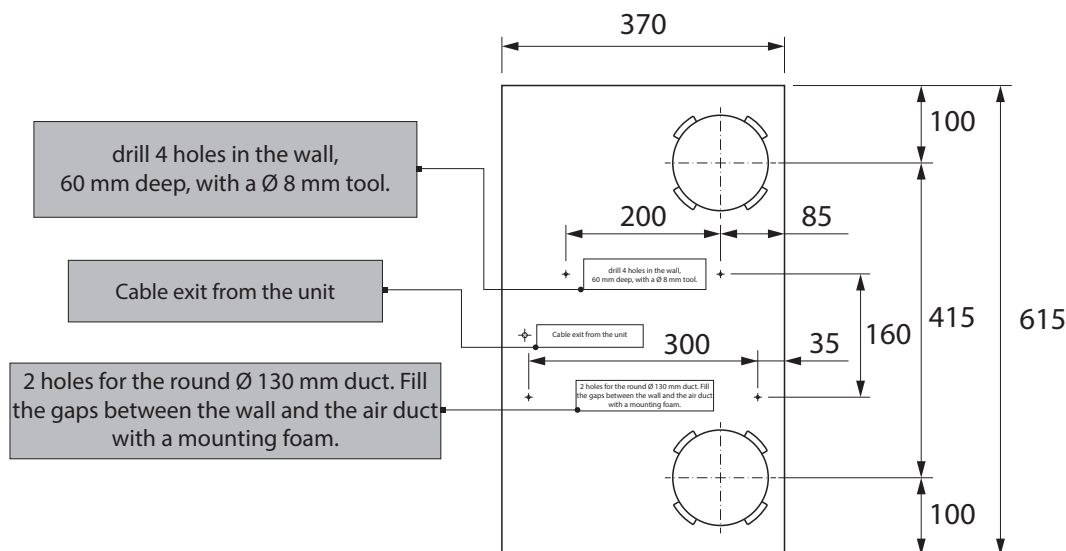
The unit heat exchanger is able to recover not only heat energy but contained humidity thus maintaining indoor humidity level. In summer time the heat exchanger serves for supply air cooling and dehumidification and in winter time for its heating and moistening.



MOUNTING AND SET-UP

Install the unit using the master plate from the delivery set and two \varnothing 125 mm ducts of required length.

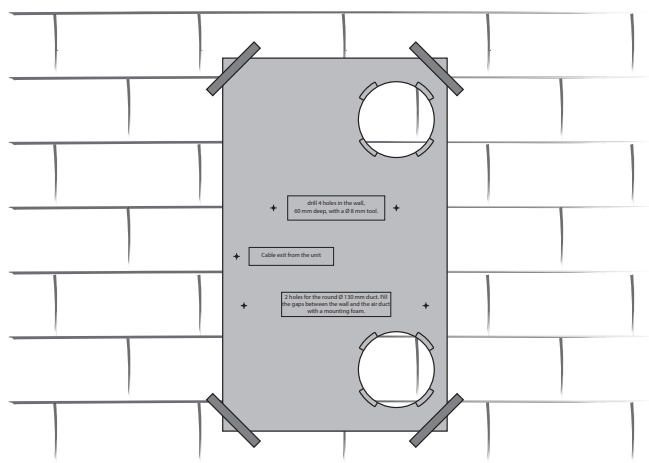
CARDBOARD MASTER PLATE FOR HOLE MARKING, MM



UNIT MOUNTING

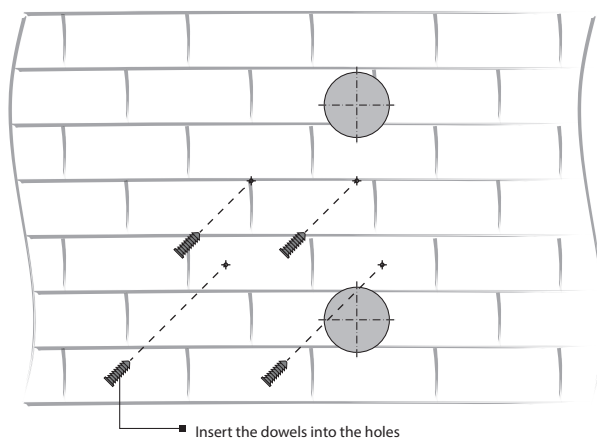
Install the unit as follows:

1. Fix the master plate from the delivery set on the wall with a sealing tape at a required height.

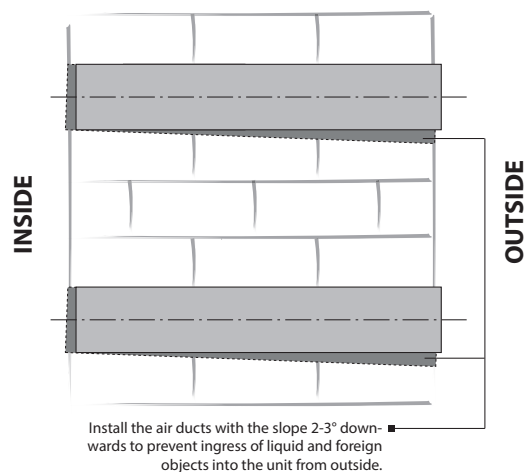


2. Use the master plate to mark two \varnothing 130 mm holes for the air ducts and four \varnothing 8 mm holes for the fixing dowels of the unit.

3. Remove the master plate and drill through holes for the air ducts and the holes, 60 mm deep for the dowels. The through holes for the air ducts must be sloped down by 2-3°. After that insert the dowels from the delivery set into the respective holes. While preparing the holes it is recommended to plan the cable layout method. The cable exit from the unit is shown on the master plate.

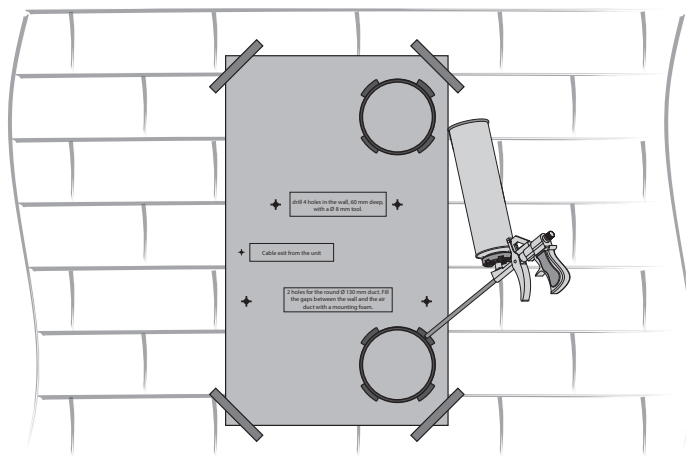


Insert the dowels into the holes



Install the air ducts with the slope 2-3° downwards to prevent ingress of liquid and foreign objects into the unit from outside.

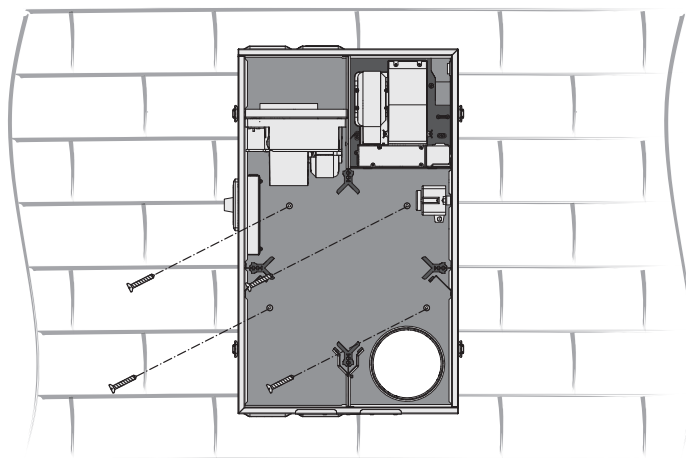
4. Re-install the master plate with a sealing tape back.
5. Install the air ducts into the master plate holes and seal those with a mounting foam through the openings in the master plate. Install the air ducts sloped down by 2-3° to enable condensate drainage from the unit.
6. After solidification of the mounting foam (see the solidification time in the product specification) remove the master plate and cut off the protruding parts of the air ducts to be flush with the outer and inner wall.



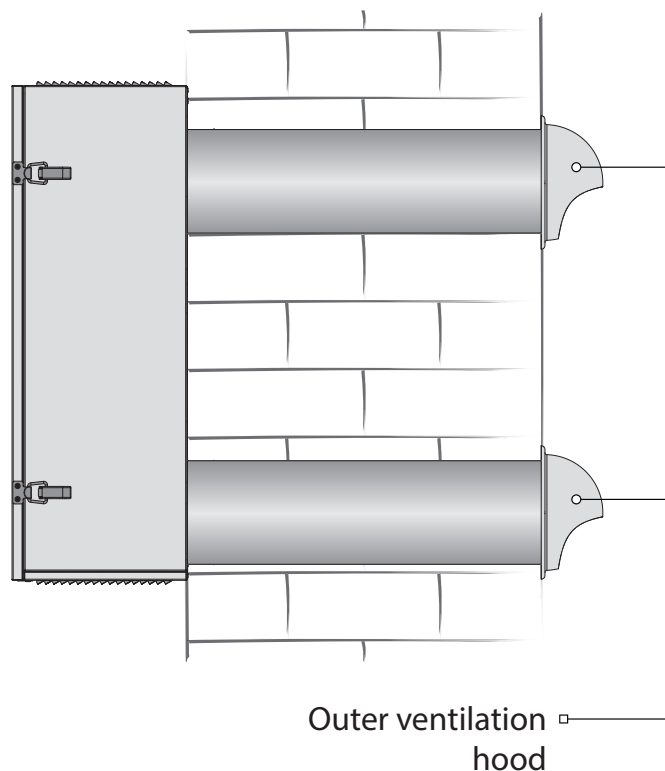
7. Ventilation unit mounting is as follows:

- Open the front panel and withdraw the heat exchanger.
- Connect the unit spigots to the plastic air ducts.
- Fix the unit to the wall installing the 5.0x50 screws from the delivery set into four Ø8 mm holes.
- Install the heat exchanger and close the front panel.

Attention! The round air ducts and the outer ventilation hood are not included into the delivery set and are ordered separately.



8. Install a Ø 125 mm outer ventilation hood on the outer wall side to prevent ingress of large foreign objects into the air ducts. The outer ventilation hood is not included into the delivery set and is ordered separately.



CONNECTION TO POWER MAINS

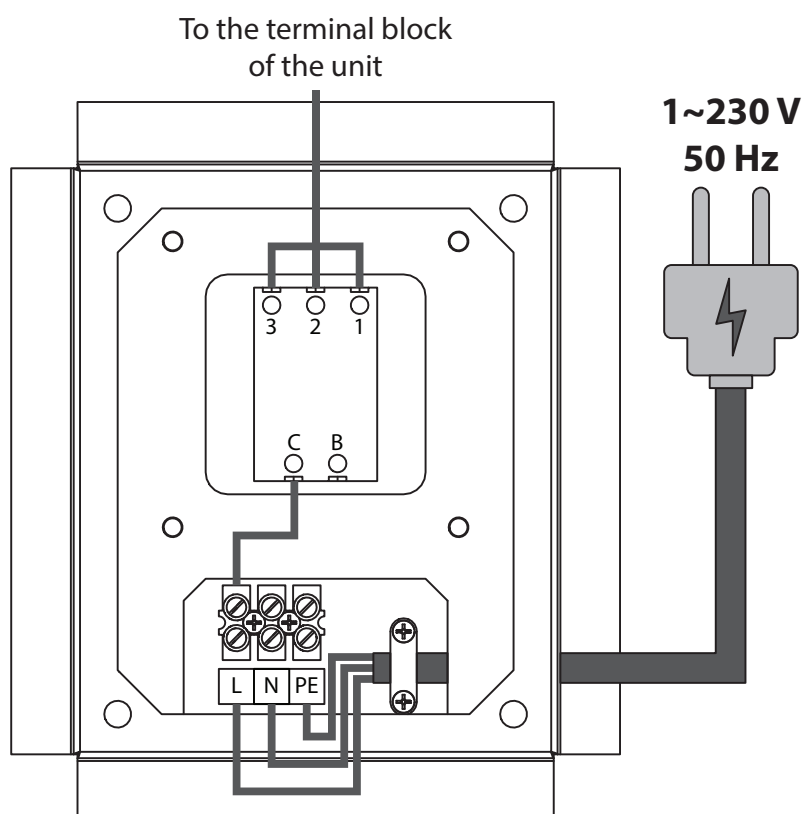


DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY ELECTRIC INSTALLATION OPERATIONS. CONNECT THE UNIT TO A CORRECT INSTALLED SOCKET WITH A GROUNDED TERMINAL.

ANY INTERNAL CONNECTION MODIFICATIONS ARE NOT ALLOWED AND RESULT IN WARRANTY SERVICE LOSS.

The unit is rated for connection to single-phase ac 1~230 V/ 50 Hz power mains by using the prewired power cable.

Connect the unit to power mains through the external automatic circuit breaker with magnetic trip integrated into the fixed wiring system. The rated circuit breaker trip current must match the rated current consumption.

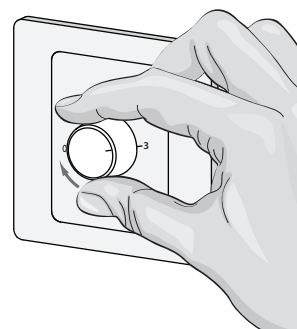
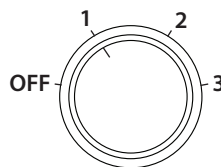


UNIT CONTROL

SPEED SWITCH

The unit is operated by means of the speed switch on the side panel of the unit.

- To activate a required unit speed rotate the speed knob clockwise and select one of three speed settings:
 - 1** - low speed
 - 2** - medium speed
 - 3** - high speed
- To turn the unit off rotate the speed knob counter clockwise and set it to OFF position.



MAINTENANCE

The recommended unit maintenance periodicity is 3-4 times per year. Maintenance of the unit means general cleaning of the unit and following operations:

1. Filter maintenance (3-4 times per year).

Contaminated filters increase air resistance and impair the supplied air volume. The filters must be cleaned as required, but at least 3-4 times per year. Cleaning with a vacuum cleaner is allowed. After two consecutive cleaning the filters must be replaced. For new filters contact the unit Seller.

Filter removal is as follows:

1. Undo the service panel clips.
2. Take off the service panel carefully.
3. Remove the filters from the unit.

2. Heat exchanger maintenance (once a year).

Even regular filter technical maintenance may not completely prevent dust accumulation on the heat exchanger. Clean the heat exchanger on a regular basis to ensure its high heat recovery efficiency. To clean the heat exchanger remove it from the unit and clean it with pressurized air or a vacuum cleaner.

Removing the heat exchanger:

1. Undo the service panel clips.
2. Take off the service panel carefully supporting it with hand.
3. Remove the heat exchanger.

3. Fan maintenance (once a year).

Even regular technical maintenance of the filters and heat exchangers may not completely prevent dust accumulation in the fans which reduces the fan capacity and impairs supplied air volume into the premises.

Clean the fans with a soft dry cloth or a brush. Do not use water, aggressive solvents, sharp objects etc. for cleaning not to damage the impeller.

4. Extract louvre shutters and supply diffuser maintenance.

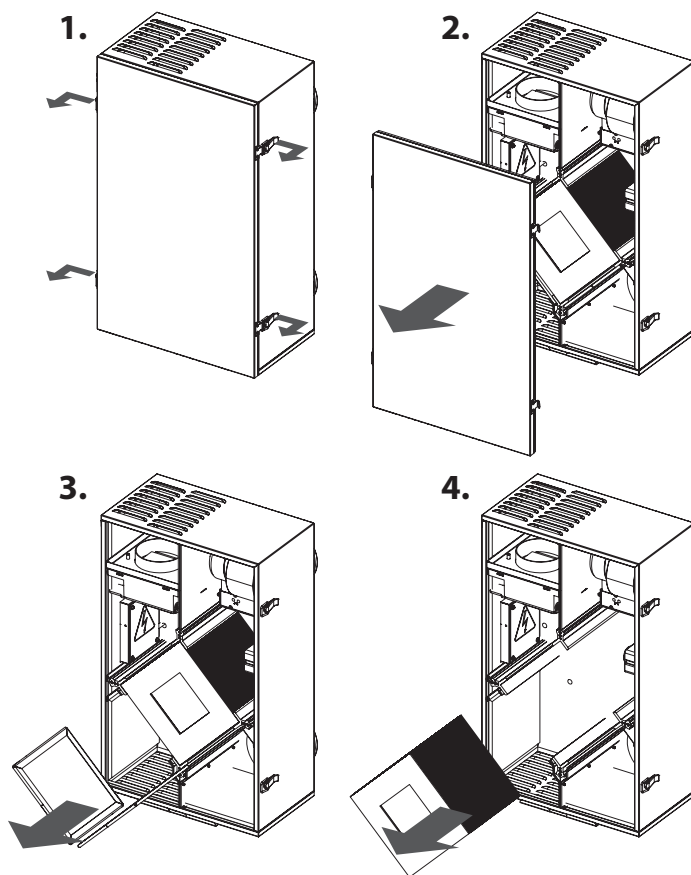
Remove the diffusers and louver shutters and wash these with warm mild detergent solution. Clean the extract louvre shutters and supply diffusers as required.

5. Air intake maintenance (twice a year).

Leaves and other pollutions can clog the supply air grille and reduce the unit performance and supply air volume. Check the supply grille twice per year and clean it as required.

6. Duct system maintenance (every 5 years).

Even regular fulfilling of all the prescribed above maintenance operations may not completely prevent dust accumulation in the air ducts which reduces the unit performance. The air duct maintenance includes regular cleaning or replacement.



TROUBLESHOOTING

FAULTS AND FAULT HANDLING

Problem	Possible reasons	Fault handling
The fan does not start up during the unit turning on.	No power supply.	Make sure that the unit is properly connected to the power mains and make any corrections, if required.
	The motor is jammed, the impeller blades are clogged.	Turn the unit off. Troubleshoot the motor jam. Clean the impeller blades. Restart the unit.
Automatic switch tripping during the unit turning on.	Overcurrent resulted from short circuit in the electric circuit.	Turn the unit off. Contact the service centre.
Low air flow.	Low set fan speed.	Set higher speed.
	The filters, the fans are contaminated. The heat exchanger is soiled.	Clean or replace the filters. Clean the fan and the heat exchanger.
	Ventilation system components as air ducts, diffusers, louvre shutters, grilles are contaminated or damaged.	Clean or replace the ventilation system components as air ducts, diffusers, louvre shutters, grilles.
Low supply air temperature.	The extract filter is clogged.	Clean or replace the extract filter.
	The heat exchanger is frozen.	Check the heat exchanger operating status. Shut the unit off if required, increase the thermostat set temperature point and turn the unit on after the freezing danger is no longer imminent.
High noise, vibration.	The impeller is soiled.	Clean the impeller(s).
	Loose screw connection in the fan or in the casing.	Tighten the screws of the fan of the casing against stop.
	No anti-vibration connectors are installed.	Install the anti-vibration connectors (not included into the delivery set).

STORAGE AND TRANSPORTATION RULES

Store the unit in the manufacturer's original packing box in a dry ventilated premise at the temperatures from +5°C up to + 40°C.

Storage environment must not contain aggressive vapours and chemical mixtures provoking corrosion, insulation and sealing deformation.

Use hoist machinery for handling and storage operations to prevent the unit damage in consequence of falling or excessive oscillation.

Fulfil the handling requirements applicable for the applicable freight type.

Transportation with any vehicle type is allowed provided that the unit is protected against mechanical and weather damage.

Avoid any mechanical shocks and strokes during handling operations.

MANUFACTURER'S WARRANTY

The manufacturer hereby warrants normal operation of the unit over the period of 24 months from the retail sale date provided the user's observance of the transportation, storage, installation and operation regulations.

Should any malfunctions occur during the unit operation through the manufacturer's fault during the warranty period the user is entitled to elimination of faults by means of warranty repair performed by the manufacturer.

The warranty repair includes work specific to elimination of faults in the unit operation to ensure its intended use by the user within the warranty period. The faults are eliminated by means of replacement or repair of the complete unit or the faulty part thereof.

The warranty repair does not include:

- Routine maintenance;
- Unit installation / dismantling;
- Unit setup.

To benefit from warranty repair the user must provide the unit, the user's manual with stamped sale date and the payment document certifying the purchase.

The unit model must comply with the one stated in the user's manual.

Contact your Seller for warranty service of the unit.

The manufacturer's warranty does not apply to the following cases:

- User's failure to provide the unit with the entire delivery package as stated in the user's manual or with missing component parts previously dismantled by the user;
- Mismatch of the unit model and make with the respective details stated on the unit packing and in the user's manual;
- User's failure to ensure timely technical maintenance of the unit;
- External damage to the casing (excluding external modifications of the unit as required for its installation) and the internal components of the unit;
- Alteration of the unit design or engineering changes of the unit;
- Replacement and use of the unit assemblies, parts and components not approved by the manufacturer;
- Unit misuse;
- User's violation of the unit installation regulations;
- User's violation of the unit control regulations;
- Unit connection to the power mains with a voltage different from the one stated in the user's manual;
- Unit breakdown due to voltage surges in the power mains;
- User's discretionary repair of the unit;
- Unit repair performed by any persons without the manufacturer's authorization;
- Expiry of the unit warranty period;
- User's violation of the established regulations specific to the unit transportation;
- User's violation of the unit storage regulations;
- Wrongful acts against the unit committed by third persons;
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, or blockade);
- Missing seals if provided by the user's manual;
- Failure to provide the user's manual with the sale date stamp;
- Missing payment document certifying the unit purchase.



FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.



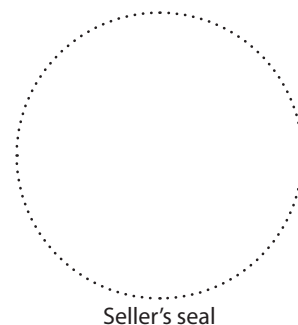
USERS' CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE SALE DATE STAMP.

ACCEPTANCE CERTIFICATE

Product Type	The single-room energy recovery air handling unit
Model	Micra 80
Serial Number	
Manufacturing Date	
The unit is recognized as serviceable. We hereby declare that the product complies with the essential protection requirements of Electromagnetic Council Directive 2004/108/EC, 89/336/EEC and Low Voltage Directive 2006/95/EC, 73/23/EEC and CE-marking Directive 93/68/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. This certificate is issued following test carried out on samples of the product referred to above.	
Quality Inspector's Stamp	

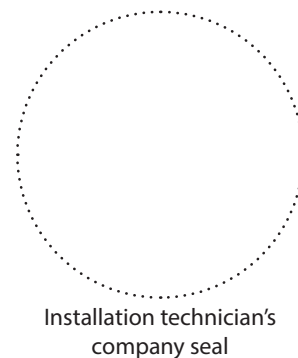
SELLER'S INFORMATION

Shop name	
Address	
Telephone	
E-mail	
Sales date	
This is to certify delivery of the complete unit with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's signature	



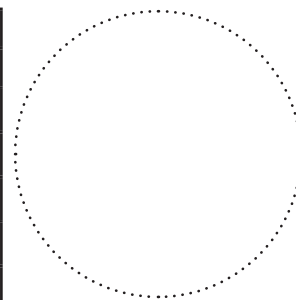
MOUNTING CERTIFICATE

The energy recovery air handling unit Micra 80 has been connected to power mains pursuant to the requirements stated in the present user's manual.		
Company name		
Address		
Telephone		
Installation technician's full name		
Installation date:		Signature:
This is to certify that the works specific to the unit installation have been performed in accordance with all the applicable provisions of local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer.		
Signature:		



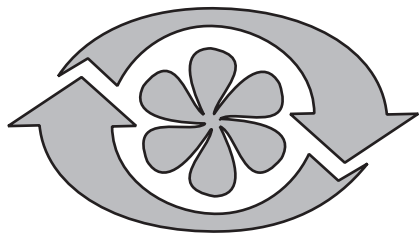
WARRANTY CARD

Product type	The single-room energy recovery air handling unit
Model	Micra 80
Serial number	
Manufacturing date	
Sales date	
Warranty period	
Sales company	



Seller's seal





IVECO